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**From:** CN=Sam Ziegler/OU=R9/O=USEPA/C=US

**Sent:** Tue 12/18/2012 10:47:28 PM

**Subject:** 4b & c

[Category 4b Waters - CWA Section 303\(d\).pdf](#)  
<http://www.epa.gov/region09/water/watershed/index.html>  
(embedded image)

Attached is a 2007 paper that Rainer Hoenicke, SFEI sent me recently on 4b & C which may be of interest in light of our discussion regarding listing the delta as impaired because of decreased freshwater flows.

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See Region 9 watershed priorities at <http://www.epa.gov/region09/water/watershed/index.html>

----- Forwarded by Sam Ziegler/R9/USEPA/US on 12/18/2012 02:36 PM -----

**From:** Rainer Hoenicke <rainer@sfei.org>  
**To:** Bruce Herbold/R9/USEPA/US@EPA, Sam Ziegler/R9/USEPA/US@EPA,  
**Date:** 11/09/2012 10:34 AM  
**Subject:**

Bruce and Sam -

In my recent research, I ran across this paper by Eric Monschein and Laurie Mann (Office of Water and Region 10, respectively) that caused me to wonder why nobody considered Category 4c Waters in the ANPR. You may be interested in taking a look at page 2 in the attached paper: "Category 4c: The non-attainment of any applicable WQS for the waterbody is the result of pollution and is not caused by a pollutant. Examples of circumstances where an impaired segment may be placed in Category 4c include waterbodies impaired solely by lack of adequate flow or by stream channelization."

Could this be an additional tool outside the State's water rights process that could incentivize the efforts to achieve the co-equal goals in the Delta (and elsewhere, for that matter)?

Aside from the Delta flow issues, I am running into many sediment impairment listings where anthropogenic causes of excess fine sediment or a fine-to-coarse imbalance lie within the channel itself, rather than land-based inputs via hillslope erosion. So, I am thinking that if measures related to land-based BMPs in TMDL implementation plans don't get at the whole picture, Category 4c may be an additional avenue to address restoration of aquatic life uses, while at the same time enhancing water supply reliability by restoring ground water elevations and the watershed "sponge effect" lost due to channelization and major changes to annual hydrographs that climate change effects even 100 years from now can't even come close to. Any thoughts?

Rainer

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